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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SELLERS, ROBERT E

ART UNIT PAPER NUMBER

1712

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,277

Applicant(s)

KUWAHARA ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 7-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-18 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/30/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-6, drawn to an addition reaction product of an aliphatic diamine of formula (1) and styrene, and a curing accelerator of a carboxyl and hydroxyl group(s)-containing compound, classified in class 252, subclass 183.11.
 - II. Claims 7-18, drawn to a composition comprising an epoxy resin and the addition reaction product of an aliphatic diamine of formula (1) and styrene, and a carboxyl and hydroxyl group(s)-containing compound, classified in class 525, subclass 523.

The inventions are independent or distinct from each other because:

2. Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product, and the species are patentably distinct (MPEP § 806.05(j)). In the instant case, the intermediate product is deemed to be useful as a reactant for the polymerization of a polyamide and the inventions are deemed patentably distinct because there is nothing on this record to show them to be obvious variants.

Restriction for examination purposes as indicated is proper because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification.

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3. This application contains claims directed to the following patentably distinct species:

- a) The aliphatic diamines of formula (1).
- b) The curing accelerators of a carboxyl and hydroxyl group(s)-containing compounds.
- c) Contingent upon the election of Group II, items a) and b) hereinabove and the epoxy resins.

4. The species are independent or distinct because the structurally distinct reactants forming the addition reaction product and the diverse chemical formulae of the epoxy resins indicates the unpatentability between species of addition reaction products and epoxy resins.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-18 are generic.

A reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

During a telephone conversation with Matthew M. Jacob on April 17, 2006, a provisional election was made with traverse to prosecute the invention of Group I, m-xylylenediamine as the aliphatic diamine, and salicylic acid as the curing accelerator, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-18 are withdrawn from further consideration under 37 CFR 1.142(b) as being drawn to a non-elected invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. It is unclear whether the addition reaction product actually results from the reactants of an aliphatic diamine of formula (1) and styrene since the term "obtainable" in claim 1, line 2 does not concisely establish the reactants. More favorable consideration would be given to the replacement of the term with "obtained."

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6. A comma should be inserted between the "styrene" and the phrase "and a curing accelerator" in claim 1, lines 3-4 (as well as page 6, lines 9-10 and 21-22) to more clearly denote that the addition product involves the aliphatic diamine of formula (1) and styrene as the sole reactants blended with the curing accelerator as corroborated by pages 8-9 of the specification. The lack of a comma opens the language to the interpretation that the curing accelerator participates in the addition reaction.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 5, 7 and 12 of copending Application No. 10/669,701 as represented by Koyama et al. Publication No. 2004/0106684 in view of CAPLUS accession no. 1990:425027 (the Kobunshi Ronbunshu article by Tanaka et al.) and European Patent No. 477,440.

7. Koyama et al. claims an addition product of a cyclic aliphatic polyamine such as the elected species of xylylenediamine or bis(aminomethyl)cyclohexane (page 1, paragraph 6), suitable species of the instantly claimed aliphatic diamine of formula (1) according to the paragraph bridging pages 7-8 of the instant specification and an alkenyl compound such as styrene (page 9, claim 5) useful as an epoxy resin curing agent (claim 12).

8. The claimed carboxyl and hydroxyl group(s)-containing compound curing accelerator is not recited. Tanaka et al. and the European patent (page 3, line 40 to page 4, line 14 and page 5, lines 9-14) disclose the elected species of salicylic acid as an accelerator for epoxy resins cured with polyamines such as m-xylylenediamine (Tanaka et al., last IT).

9. It would have been obvious to combine the salicylic acid accelerator of Tanaka et al. and the European patent with the xylylenediamine- or bis(aminomethyl)cyclohexane-styrene addition product curing agent of Koyama et al. in order to improve the curing rate of the epoxy resin.

This is a provisional obviousness-type double patenting rejection.

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Claims 1-6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 5 and 12 of Ichikawa et al. Patent No. 6,908,982 in view of Tanaka et al. and the European patent.

10. Ichikawa et al. claims an addition product of a diamine having the same structure as claimed formula (1) and styrene containing less than 15% by weight of the diamine of formula (1). The claimed carboxyl and hydroxyl group(s)-containing compound curing accelerator is not recited. Tanaka et al. and the European patent is described hereinabove. It would have been obvious to combine the salicylic acid accelerator of Tanaka et al. and the European patent with the diamine of formula (1)-styrene addition product of Ichikawa et al. in order to improve the curing rate of the epoxy resin.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonehama et al. Patent No. 6,562,934, Japanese Patent No. 2004-18711 and Ichikawa et al. Patent No. 6,908,982 in view of Tanaka et al. and the European patent.

11. Yonehama et al. shows a curing agent for an epoxy resin (col. 3, lines 23-25) comprising the addition reaction product of meta-xylylenediamine and styrene filtered to separate precipitates (col. 7, Example 1).

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12. The Japanese patent (pages 3-4, Synthetic Example 1) and Ichikawa et al. (col. 8, Synthesis Example 1) show curing agents for epoxy resins prepared by the addition reaction of meta-xylylenediamine and styrene filtered to remove precipitates such that only 1.1% by weight of meta-xylylenediamine remains (Ichikawa et al., col. 8, lines 21-23).
13. The claimed carboxyl and hydroxyl group(s)-containing compound curing accelerator is not recited. Tanaka et al. and the European patent is described hereinabove. It would have been obvious to combine the salicylic acid accelerator of Tanaka et al. and the European patent with the meta-xylylenediamine-styrene addition product of Yonehama et al., the Japanese patent and Ichikawa et al. in order to improve the curing rate of the epoxy resin.
14. The publication date of January 22, 2004 for the Japanese patent and the filing date of June 18, 2003 for Ichikawa et al. antedates the filing date of the application of February 9, 2004. However, Japanese priority application no. 2003-035487 having a filing date of February 13, 2003 antedates the dates of these references contingent upon the filing of a certified English translation supporting the claimed subject matter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

rs 4/13/2006



ROBERT E.L. SELLERS
PRIMARY EXAMINER